DO NOT WRITE ON THIS WORKSHEET.

ALGEBRA III
WS - QUADRATIC FUNCTIONS

NAME Key
PER ___ DATE ___

vertex form

For the functions below, find each of the following: A) vertex, B) axis of symmetry, C) direction of opening, D) maximum or minimum, E) range, F) increasing interval, G) decreasing interval, and H) intercepts. Then graph the function.

1) $f(x) = (x-2)^2 - 3$

max 2) $f(x) = (x+2)^2$

3) $f(x) = x^2 - 4$

max 4) $f(x) = -(x+1)^2 + 3$

5) $f(x) = 2(x-1)^2 - 5$

max 6) $f(x) = -3(x+1)^2 + 1$

Day 1: 2, 4 + 6

Day 2: 1, 3, 5, + (7-10)

standard form

Graph using a graphing calculator. Then A) sketch the graph and find B) vertex, C) maximum or minimum, D) range, and E) intercepts.
↳ exact

7) $f(x) = x^2 + 6x + 7$

8) $f(x) = -x^2 - 2x + 3$

9) $f(x) = 3x^2 - 12x + 14$

10) $f(x) = -2x^2 + 3x + 7$